

**ABSTRACT OF THE DISCLOSURE**

An aviation gasoline (Avgas) fuel composition possessing a high motor octane number and which contains reduced amounts of tetraethyl lead is disclosed. The Avgas composition preferably comprises about 20 to about 80 vol% iso-octane, about 5 to about 18 vol% toluene, about 1 to about 20 vol% C<sub>4</sub> to C<sub>5</sub> paraffins, about 0 to about 1 ml/gallon tetraethyl lead (TEL) and the balance light alkylate. The Avgas composition may be economically produced utilizing spare methyl tertiary butyl ether plant capacity to produce iso-octane as one component of the composition.